## 2.3 Quantum Epistemic Logic

On the backdrop (§2.2) of classical (intuitionistic) epistemic type theory understood as an equivalent re-interpretation of classical (intuitionistic) dependent type theory, and in view (§2.1) of the existence of dependent *linear* type theory LHoTT, we are led to expect that *quantum epistemic type theory* ought to analogously be obtained by re-regarding the base change adjunction (167) of dependent *linear* type formation
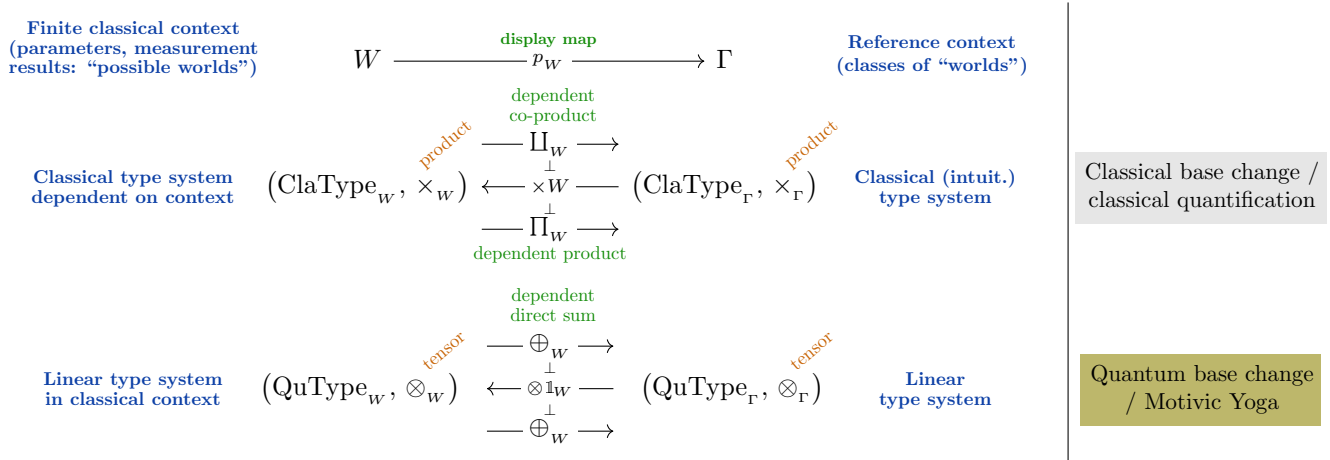
by passing to the induced (co)monads (**??**), which we denote by the same symbols as their classical counterparts (182):

$$(194)$$
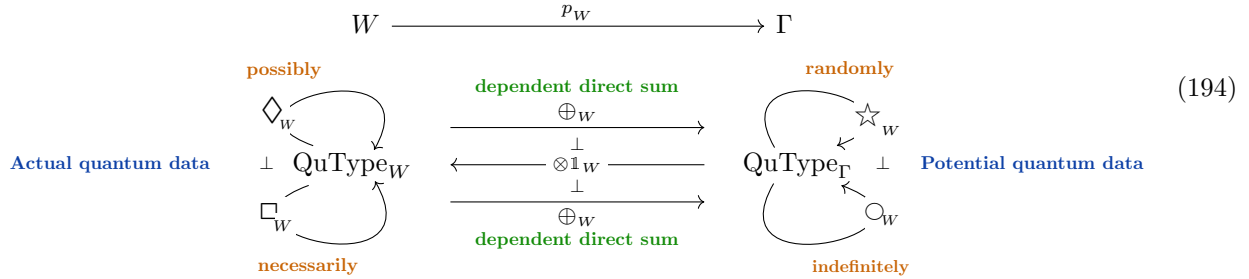
A key point now is the *ambitexterity* (167) of the base change for dependent linear types along a finite classical type W:

$$W : \mathrm{ClaType}^{\mathrm{fin}} \quad \vdash \quad \left(\underset{W}{\oplus} \; \dashv \; \otimes \mathbb{1}_W \; \dashv \; \underset{W}{\oplus} \right) \tag{195}$$

It is now as elementary to work out the (co)units of these (co)monads (they are the universal maps of the direct sum construction) as it is interesting – in view of quantum epistemology (Lit. 1.1):